

REMARKS

The Office Action of February 1, 2006 is acknowledged. Figure 1A was objected to, and claims 1-32 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Claims 1 and 21 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,562,169 to Barrow. Claims 1-32 were rejected 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 3,878,906 to Guest in view of U.S. Patent No. 5,462,312 to Carpenter *et al.*

Drawing

As requested by the Examiner, Applicant has amended Figure 1A to designate that it represents prior art, and a Replacement Sheet is attached. Additionally, Figures 1, 1B, 2, 3, 3A, and 3B have also been amended to designate that these figures represent prior art, and appropriate Replacement Sheets are attached. Applicant requests Examiner's approval of the drawing replacement sheets.

Claim Rejections Under 35 U.S.C. § 112

Claims 1-32 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Specifically, the Examiner asserted that there is no support in the specification for the use of the term "releasable" as relating to the locking configuration in claims 1, 11, 21, and 31. Applicant respectfully disagrees and traverses the Examiner's rejection. Paragraph [0055] of the application specifically stated that, "Once withdrawn, the soil sample may be obtained by unscrewing the adapter coupling 12 and drive shoe 14 from the respective ends of the core barrel. One or both of the halves 110a, 110b may then be axially slid with respect to one another until locking tabs 142, 152 are offset and become disengaged from one another. This allows the halves to be separated so that the soil sample may be readily accessed." Accordingly, the specification is quite clear that the locking configuration can be disengaged, which means that it is releasable to one skilled in the art. The common dictionary definition for disengaged also supports this, as the Merriam-Webster OnLine dictionary at www.m-w.com defines disengage as, "to release from something that engages or involves." (Exhibit A). In addition, the American Heritage Dictionary of the English Language: BDDB01 4310232v1

Fourth Edition. 2000 at the www.bartleby.com website defines disengage as, "To release from something that holds fast, connects, or entangles" (Exhibit B).

Furthermore, Applicant notes that the rejection under § 112 was improper as "The Examiner has the initial burden of presenting evidence or reasoning to explain why persons skilled in the art would not recognize in the original disclosure a description of the invention defined by the claims." M.P.E.P. § 2163. The Examiner did not provide any reasoning why one skilled in the art would not recognize that the locking configuration was releasable considering Paragraph [0055] of the specification. Applicant also reminds the Examiner that, "There is no *in haec verba* requirement" so long as the claim limitations are supported in the specification through express, implicit, or inherent disclosure. M.P.E.P. § 2163.02. Applicant maintains that the term "releasable locking configuration" is supported in the specification expressly and/or implicitly in Paragraph [0055] even though the term "releasable" was not explicitly used. Applicant also refers the Examiner to the case *In re Wright* cited in the M.P.E.P., wherein the Federal Circuit found that the disclosure discussing the removal of photosensitive microcapsules supported the amended claim language "not permanently fixed" even though that terminology was not explicitly used in the specification. M.P.E.P. § 2163 citing *In re Wright*, 866 F.2d 422, 425, 9 USPQ2d 1649, 1651 (Fed. Cir. 1989).

Nonetheless, to provide consistency between the claims and the specification, Applicant has amended Paragraph [0055] to include the phrasing that the locking tabs of the locking configuration are released. Applicant notes that the amendment does not add new matter and is permissible by the M.P.E.P. as the "Mere rephrasing of a passage does not constitute new matter," and "Accordingly, a rewording of a passage where the same meaning remains intact is permissible." M.P.E.P. § 2163.07. Furthermore, "The mere inclusion of dictionary or art recognized definitions known at the time of filing an application would not be considered new matter." *Id.*

Furthermore, Applicant notes that Paragraph [0055] was referenced in the original response on page 8 for support that the locking configuration allowed the halves to be separated so that the soil sample could be readily accessed and obtained.

Accordingly, Applicant requests the Examiner to withdraw the rejection under §112.

Claim Rejections Under 35 U.S.C. § 102(b)

The Examiner has rejected claim 1 as being anticipated by Barrow. Applicant respectfully traverses this rejection, as Barrow does not disclose the limitations of claim 1. Claim 1 requires that the halves of the core barrel include “a releasable locking configuration to prevent lateral movement of said halves relative to one another with respect to an axis of the core barrel and to also preclude movement of said halves relative to one another in a direction perpendicular to the plane.” Examiner has asserted that Barrow discloses this limitation in column 3, lines 35-38 that discusses using a cap 42 and a shoe 43 to prevent lateral movement of the halves. However, claim 1 requires that the halves include the releasable locking configuration that prevents both lateral and perpendicular movement (*i.e.*, locking configurations 160 including grooves 116, tongues 118, and locking tabs 142 and 152 along the longitudinal edges of the halves). The core barrel halves in Barrow, on the other hand, do not have a locking configuration that prevents the halves from moving perpendicular to one another. Rather, as acknowledged by the Examiner, Barrow’s core barrel requires the addition of “a cap 42 and a shoe 43 threaded on the respective top and bottom of the core barrel 41” to prevent perpendicular movement of the core barrel halves relative to one another.¹ Likewise, in Applicant’s specification, the core barrel 110 is clearly described as a separate part from adapter coupling 12 and drive shoe 14 (Paragraph [0053]). Furthermore, it is clear in the specification, figures and claims that the locking configuration is contained on the halves of the core barrel and not on the externally applied members. Accordingly, claim 1 is not anticipated by Barrow.

¹ Applicant notes that Barrow discloses the same design as the prior art described in the application in Paragraphs [0045] to [0048] and shown in Figures 1-3. However, besides the fact that the core barrel halves do not contain the claimed invention, the Barrow design does not prevent movement of the corresponding barrel across the length thereof in a direction perpendicular to the splitting plane because as the soil is driven into the sample barrel, the two halves may swell or bow apart from each other (Paragraph [0006]).

Claim 21 is also rejected as being anticipated by Barrow. For the same reasons set forth above regarding claim 1, claim 21 is likewise not anticipated by Barrow.

Claim Rejections Under 35 U.S.C. § 103

Claim 1 was rejected as being anticipated by Guest in view of Carpenter. Applicant reasserts that Carpenter *et al.* is nonanalogous art to Applicant's split core barrel invention. As the Examiner concurs, to rely on a reference under 35 U.S.C. § 103, it must be analogous prior art. M.P.E.P. § 2141.01(a). Furthermore, to be analogous art, a "reference must either be in the field of applicant's endeavor or, if not, then reasonably pertinent to the particular problem with which the inventor was concerned." *Id.*

As previously noted, the tubing coupling enclosure disclosed in Carpenter is a shielding for transmission lines extending through the coupling and is designed to repair tubing, when it is necessary to remove a portion of the tubing. (Column 1, lines 6-49). In paragraph 1 of the Office Action, Examiner does not clarify whether she is asserting that the tubing coupling of Carpenter *et al.* is in the same field of endeavor or is reasonably pertinent to the particular problem. Clearly, the tubing coupling enclosure for transmission lines is in a different field of endeavor than a core barrel for receiving soil samples. So, Applicant assumes that the Examiner is asserting that Carpenter *et al.* is reasonably pertinent to the problem with which the inventor was concerned. Paragraph 1 of the Office Action maintains that Carpenter *et al.* and Applicant's invention both broadly pertain to a tubular enclosure within interlocking means which holds two pieces together. Examiner's broad description of Carpenter *et al.* and Applicant's invention does not mean that Carpenter *et al.* is reasonably pertinent to the "particular problem" with which the applicant was concerned. Examiner's assertion is akin to maintaining that canoes and the space shuttle are analogous art because they both pertain to transportation.

As previously noted, the invention is concerned and related to the particular problem of two halves of a core barrel swelling or bowing apart when soil is driven into the sample barrel (Paragraph [0006]). The deformation of the barrel caused by the soil being driven therein can cause permanent deformation of the barrel halves, making it difficult to remove the drive shaft and adapter coupling (Paragraph [0006]). Accordingly,

the invention is designed to constrain the split halves from moving with respect to one another in the direction both parallel and perpendicular to the splitting plane to resist permanent deformation of the sampler and to increase the useful life by reducing the swelling or bowing apart of the barrel halves from one another, as the sampler is driven to the ground. (Paragraph [0007]). In addition, another aspect of the particular problem is that the core barrel must be separable so that a core sample can be readily accessed and obtained without damaging the core sample. The fact that Carpenter *et al.* is not concerned with being able to release the halves apart in order to obtain and preserve a core sample and that there is no internal pressure involved mean that it is not reasonably pertinent to the "particular problem" with which the inventor was concerned.

Furthermore, Guest and Carpenter *et al.* do not render the claims obvious because in order to separate the halves of the core barrel, the locking configuration must be releasable or disengageable (Paragraph [0055]) so that the soil sample may be retrieved. Claims 1, 2, 21, and 31 were revised to specify that the locking configuration is releasable. The Examiner has asserted in paragraph 1 of the Office Action, that the "releasable" limitation does not distinguish the claims over the prior art and that any locking configuration is releasable. However, Examiner's assertion is in direct contradiction to the teaching in Carpenter *et al.*, which specifies that, "One or more flared teeth 52 on either or both of the extensions 46 and the groove 48 are intended to irreversibly lock the first interlocking elements 42 together." (Column 2, lines 23-26) (Emphasis added). Additionally, the Examiner's assertion that any locking configuration is releasable was not supported by any reference and is untenable. For instance, it is well known to provide security seals with locking configurations that are not releasable and may only be removed upon destruction of the device. For example, see U.S. Patent No. 5,222,776 to Georgopoulos *et al.*, which describes a security seal and lock that cannot be removed without destruction of the device. (Column 2, lines 29-32). The Examiner has not asserted exactly how all locks are releasable; however, if the Examiner means to include locks that require destruction to be released, one skilled in the art would not interpret the term "releasable locking configuration" as used in the claims and in light of the specification to include locking configurations requiring destruction of the core barrel to

obtain the soil sample. Furthermore, one skilled in the art would have no basis to determine from Carpenter *et al.* if a non-damaged soil sample could be retrieved if the core barrel was destroyed or otherwise pried open to obtain the soil sample. Additionally, as noted in Paragraph [0007] of the application, an object of the invention is to increase the useful life by reducing swelling or bowing apart of the barrel halves from one another as a sampler is driven into the ground. A locking configuration that required destruction of the core barrel would not be increasing the life thereof.

Applicant also noted in the previously submitted amendment and response that a *prima facie* case of obviousness has not been established as required by M.P.E.P. § 2143, as there is no suggestion or motivation in the references to combine the transmission line coupling with the core barrel. Furthermore, “the mere fact that the references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests a desirability to combination.” M.P.E.P. § 2143.01. There is no suggestion that it would be desirable to combine these references. Accordingly, should the Examiner maintain the rejection that the claims are obvious over Guest in view of Carpenter *et al.*, Applicant requests the Examiner to identify where the prior art suggests combining the transmission line coupling locking configuration with a core barrel sampler.

As claim 1 is not obvious over Guest in view of Carpenter *et al.* as set forth above, dependent claims 2-10 are also not obvious and should be allowable.

Furthermore, in section 1 of the Office Action, the Examiner asserted that the plurality of first interlocking elements of Carpenter *et al.* are inherently intermittent. Applicant disagrees, as a plurality is not the same as intermittent, which is defined as “stopping and starting at intervals (American Heritage Dictionary of English Language: Fourth Edition, 2000) (Exhibit C) or “not continuous” (Merriam-Webster OnLine Dictionary at www.m-w.com). (Exhibit D). These definitions are consistent with the term “intermittent” as used in the specification and drawings to show and describe the intermittent (noncontinuous) locking tabs 142 and 143 (Figures 4, 6, 7, and Paragraphs [0050]-[0052]. Carpenter *et al.* does not disclose such intermittent locking tabs as the interlocking elements in Carpenter *et al.* extend along the entire length of longitudinal edges of each section, as is clearly evident in Figure 1. However, to further clarify the

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distinction of the intermittent locking tabs in Applicant's invention from a mere plurality of interlocking elements, claim 4 has been amended to clarify that the core barrel includes "locking tabs intermittently spaced along the longitudinal edges of the halves."

Applicant respectfully traverses the rejection to claim 11 for the same reasons as set forth above regarding claim 1.

As claim 11 is not obvious over Guest in view of Carpenter *et al.* as set forth above, dependent claims 12-20 are also not obvious and should be allowable.

Applicant also further traverses the rejection to claim 14 in view of the remarks set forth above regarding claim 4 and the amendment similar to that in claim 4.

Applicant respectfully traverses the rejection to claim 21 for the same reasons as set forth above regarding claim 1.

As claim 1 is not obvious over Guest in view of Carpenter *et al.* as set forth above, dependent claims 22-30 are also not obvious and should be allowable.

Applicant respectfully traverses the rejection to claim 24 based upon the remarks set forth above regarding claim 4, as claim 24 includes an amendment similar to that discussed above in claim 4.

Applicant respectfully traverses the rejection to claim 31 for the same reasons as set forth above regarding claim 1. In addition, claim 31 also requires that the locking configuration can be "engaged by matching respective edges of said halves to one another to form said cylinder while said halves are offset from one another along an axis of said core barrel and then sliding at least one of said halves relative to the other so that said halves are substantially even along the axis of said core barrel." The interlocking elements in Carpenter *et al.* are not engaged by sliding the halves relative to one another, but rather are snap locked together in an irreversible lock. Carpenter *et al.* specifies that, "The intermediate section 40 spans substantially the whole gap 30 and is easily assembled by pressing the first interlocking elements 42 toward one another in a direction generally transverse to a longitudinal axis 44 of the intermediate section 40." (Column 2, lines 12-16). Nothing in Carpenter *et al.* suggests that the interlocking elements may be slid together. Also, if the parts in Carpenter *et al.* were slid together rather than snap locking,

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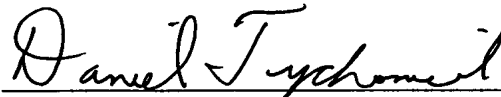
they would not be irreversibly locked as Carpenter *et al.* claims they are. Accordingly, Carpenter *et al.* does not teach this limitation, and claim 31 is not obvious in view of Guest and Carpenter *et al.*

As claim 31 is not obvious over Guest in view of Carpenter *et al.* as set forth above in the remarks to claim 1 and claim 31, dependent claim 32 is also not obvious and should be allowable.

Applicant considers that all issues raised in the Office Action of February 1, 2006 have been addressed and that all claims 1-32 are in condition for allowance. Applicant notes that certain claims have been amended solely to advance prosecution of the subject application and that no admissions may be inferred therefrom.

If necessary to effect a timely response, please consider this paper a request for any required extension of time, and charge any shortages in fees, or apply any overpayment credits, to Baker & Daniels LLP's Deposit Account No. 02-0387 (75971.24). However, please do not include the payment of issue fees.

Respectfully submitted,



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May 23, 2006

Date



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